

**CLAIMS**

All pending claims of the Application are shown below.

1. (Withdrawn) A distillation system for recovering acetic acid from water during terephthalic acid production comprising:  
a dehydration column having an overhead section;  
at least one input feed stream containing acetic acid and water;  
an entrainer; and  
a condenser to separate the acetic acid from water.
2. (Withdrawn) The distillation system according to claim 1 wherein the dehydration column is an azeotropic dehydration column.
3. (Withdrawn) The distillation system according to claim 1 wherein the dehydration column an output bottom stream and an output overhead stream.
4. (Withdrawn) The distillation system according to claim 3 wherein the output bottom stream has a higher acetic acid concentration that the at least one input feed stream.
5. (Withdrawn) The distillation system according to claim 3 wherein the output overhead stream has a lower dilute acetic acid concentration than the at least one input feed stream.
6. (Withdrawn) The distillation system according to claim 1 wherein the condenser condenses a vapor from the overhead of the dehydration column to generate a low pressure steam.
7. (Withdrawn) The distillation system according to claim 6 wherein the low pressure steam generated has a pressure of at least 0.6 kg/cm<sup>2</sup> abs.

8. (Withdrawn) The distillation system according to claim 6 wherein the low pressure steam generated has a pressure from  $0.7 \text{ kg/cm}^2 \text{ abs}$  to  $2.0 \text{ kg/cm}^2 \text{ abs}$ .

9. (Withdrawn) The distillation system according to claim 1 wherein the entrainer is N- butyl acetate.

10. (Withdrawn) The distillation system according to claim 1 wherein the entrainer is I-butyl acetate.

11. (Withdrawn) The distillation system according to claim 1 wherein the entrainer is a mixture of N-butyl acetate and I-butyl acetate.

12. (Withdrawn) The distillation system according to claim 1 wherein the distillation column has an overhead pressure of at least  $1.2 \text{ kg/cm}^2 \text{ abs}$ .

13. (Withdrawn) The distillation system according to claim 1 wherein the distillation column has an overhead pressure greater than  $1.2 \text{ kg/cm}^2 \text{ abs}$ .

14. (Previously Presented) A distillation method for recovering acetic acid from water during the production of terephthalic acid, the method comprising;  
providing an input feed stream of water containing acetic acid;  
distilling the input feed stream in an azeotropic dehydration column having an overhead section into a vapor stream, the dehydration column operating at greater than ambient pressure;  
entraining the vapor;  
condensing the vapor stream to a liquid having an organic component and a water component, the organic component separable from the water component through phase separation; and  
outputting a bottom stream having a higher acetic acid concentration than the input feed stream and an output overhead stream having a more dilute acetic acid concentration than the input feed stream.

15. (Original) The distillation method according to claim 14 wherein the entraining step uses N-butyl acetate.

16. (Original) The distillation method according to claim 14 wherein the entraining step uses I-butyl acetate.

17. (Original) The distillation method according to claim 14 wherein the entraining step uses a mixture of N-butyl acetate and I-butyl acetate.

18. (Original) The distillation method according to claim 14 wherein the condensing step generates a low pressure steam.

19. (Original) The distillation method according to claim 18 wherein the low pressure steam is at least  $0.6 \text{ kg/cm}^2$  abs.

20. (Original) The distillation method according to claim 18 wherein the low pressure steam is from  $0.7 \text{ kg/cm}^2$  abs to  $2.0 \text{ kg/cm}^2$  abs.

21. (Currently Amended) The distillation method according to claim 14 wherein the overhead section ~~distilling step~~ has an overhead pressure of at least  $1.2 \text{ kg/cm}^2$  abs.

22. (Currently Amended) The distillation method according to claim 14 wherein the overhead section ~~distilling step~~ has an overhead pressure of greater than  $1.2 \text{ kg/cm}^2$  abs.


**CONCLUSIONS**

Applicants have made an earnest attempt to place this case in condition for allowance. For the foregoing reasons, and for other reasons clearly apparent, Applicants respectfully request full allowance of all pending claims. If the Examiner feels that a telephone conference or an interview would advance prosecution of this Application in any manner, the undersigned attorney for Applicants stands ready to conduct such a conference at the convenience of the Examiner.

The Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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